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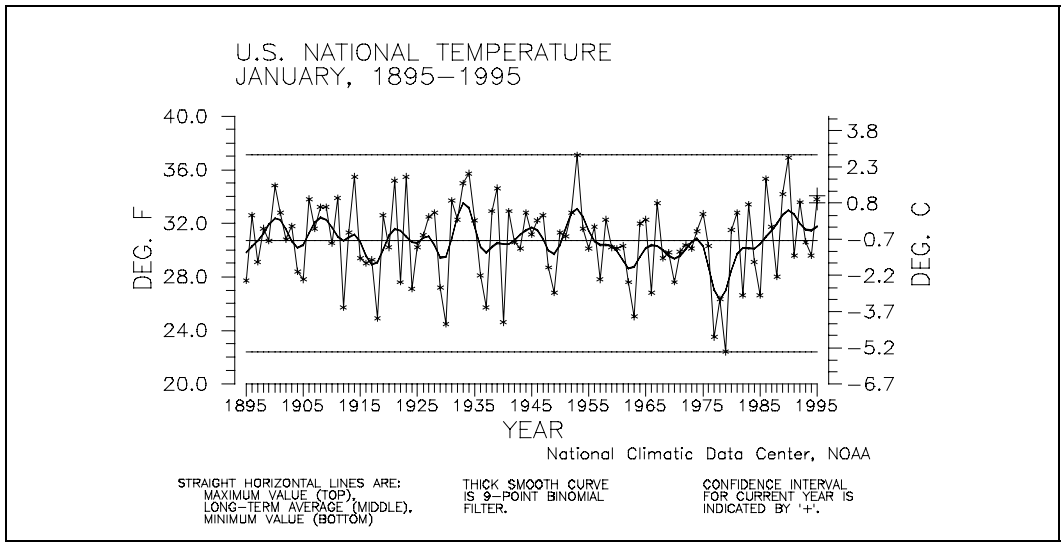
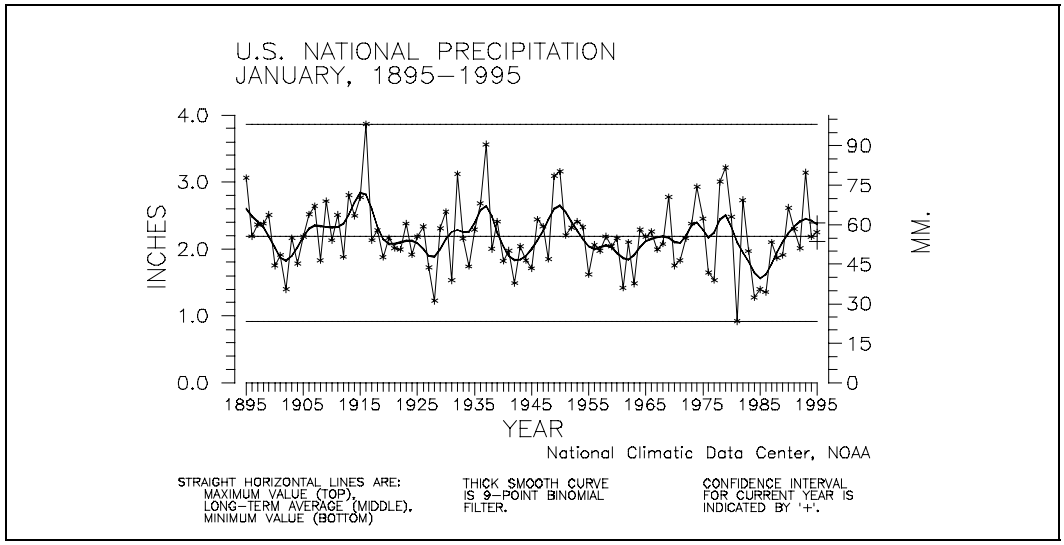
CLIMATE VARIATIONS BULLETIN





noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE / NATIONAL CLIMATIC DATA CENTER ASHEVILLE, N.C.

This CLIMATE VARIATIONS BULLETIN (CVB) is a preliminary report that puts current monthly climate anomalies into historical perspective using climate databases archived at the National Climatic Data Center (NCDC). It is issued on a monthly basis. Supplemental sections are included which address seasonal and annual perspectives, when appropriate.

Current data are based on preliminary reports from First and Second Order airport stations obtained from the National Weather Service (NWS) Climate Analysis Center, and preliminary tornado statistics obtained from the NWS National Severe Storms Forecast Center. THE CURRENT DATA SHOULD BE USED WITH CAUTION. These preliminary data are useful for estimating how current anomalies compare to the historical record, however the actual values and rankings for the current year will change as the final data arrive at NCDC and are processed.

The following NCDC datasets are used for the historical data: the climate division drought database (TD-9640), the hurricane datasets (TD-9636 and TD-9697), the tornado dataset (STORM DATA), and the monthly station dataset (LCD supplemental files). It should be noted that the climate division drought database consists of monthly data for 344 climate divisions in the contiguous United States. These divisional values are calculated from the 6000+ station Cooperative Observer network.

The narrative, tables, and graphs in the CVB are also available via automated facsimile. The previous month's summary can be obtained after the tenth of the month by dialing 704-271-4570 and selecting the appropriate menu codes. A touch-tone fax machine is required.

If you have access to the Internet, copies of the CVB are available via both the NCDC's World Wide Web (WWW) server and the NCDC's anonymous FTP server.

NCDC's WWW server
URL for the CVB: http://www.ncdc.noaa.gov/publications/cvb/cvb.html

NCDC's anonymous FTP server
Machine: ftp.ncdc.noaa.gov
Directory: /pub/data/cvb

If you are a climate researcher and would like to order copies of the historical datasets used to make graphs of the type in this report, call 704-271-4994 or fax a letter to 704-271-4876 or mail a letter to the address given below, ATTN: Research User Services.

All other questions or requests for data should be made by calling 704-271-4800 or sending a fax to 704-271-4876 or by writing to:

National Climatic Data Center, NOAA
Federal Building
151 Patton Avenue, Room 120
Asheville, NC 28801-5001

If you use any of the information from this CVB, please identify "National Climatic Data Center, NOAA" as the source.

UNITED STATES JANUARY CLIMATE IN HISTORICAL PERSPECTIVE

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Preliminary data for January 1995 indicate that temperature averaged across the contiguous United States was above the long-term mean (see Figure 1). January 1995, with an averaged temperature of 33.8° (F), ranked as the 14th warmest January since national records began in 1895. The 1995 value is based on preliminary data, which has been shown to be within 0.26°F (0.14° C) of the final data over a 46-month period. This confidence interval is indicated in the figure by '+'. The darker smooth curve is a nine-point binomial filter that averages out the year-to-year fluctuations and shows the longer-term variations. Nearly one-eighth (12.1%) of the country averaged much warmer than normal while none of the country averaged much cooler than normal for January 1995.

Areally-averaged precipitation for the nation was near the long-term mean, ranking January 1995 as the 43rd wettest January on record. The preliminary value for precipitation is estimated to be accurate to within 0.14 inches (3.56 millimeters) and the confidence interval is plotted in Figure 2 as a '+'. Seven percent (7.4%) of the country experienced much wetter than normal conditions while 9.4% of the country was much drier than normal.

Historical precipitation is shown in a different way in Figure 3. The January precipitation for each climate division in the contiguous U.S. was first standardized using the gamma distribution over the 1931-90 period. These gamma-standardized values were then weighted by area and averaged to determine a national standardized precipitation value. These national weighted values were then normalized over their period of record. Negative values are drier and positive values are wetter than the mean. This index gives a more accurate indication of how precipitation across the country compares to the local normal (60-year average) climate. The national standardized precipitation ranked January 1995 as the 36th driest such month on record.

In order to show more of a historical perspective, the precipitation and temperature rankings for the periods January 1995, December 1994-January 1995, August 1994-January 1995, and February 1994-January 1995 for the nine climatically homogeneous regions, as well as the national rankings, are listed in Table 1.

The regional rankings for temperature for the month of January indicate that warmer than normal conditions were noted for the entire country except for the Central and Southeast regions where near normal temperatures were documented. January 1995 was the fourth warmest such month since 1895 for the West region (Figure 13), the tenth warmest for the Northeast region (Figure 14), and the eleventh warmest January on record for the Northwest region. The Central region had the coolest ranking for January at 48th warmest (Figure 15).

When the January rankings are compared to the December-January period, we see an even warmer pattern overall where every region of the country was within the warm third of the historical distribution. The winter-to-date (December-January) was the sixth warmest such period for the Northeast region, the 13th warmest such period for the Southwest, and the 14th warmest such two-month period for the East-North Central region. For the nation as a whole, December-January 1994-95 ranked as the third warmest since 1895. Looking back at the previous six month period (August 1994-January 1995) we see the same pattern where every region except the West was within the warm third of the distribution. A similar statement can be made for the last twelve-month period as well.

Every region of the country except two (the West-North Central, 9th driest [Figure 11] and the West, 17th wettest [Figure 12]) was within the normal third of the historical distribution for January 1995. January precipitation for the West-North Central region, since the mid-1980's, has been persistently only near to well

below the long-term mean, with the absence of unusually wet January's during this period.

A somewhat drier pattern was noticed for the two month period where December 1994-January 1995 was the fifth driest on record for the West-North Central region and the 41st driest such two month period for the country as a whole. For August 1994 through January 1995 the nation had it's 46th wettest such six month period and every region except the Northwest (24th driest) and the Northeast (33rd driest) was within the mid- and upper-third of the historical distribution.

National averaged temperature for the two month period December 1994-January 1995 is shown in Figure 4. Temperature for the two-month period was much above the long-term mean ranking as the 3rd warmest such period since 1895. Not since 1952 have winter-to-date temperatures averaged warmer.

In Figure 5, national averaged precipitation for December 1994-January 1995 is shown graphically. The two month period was the 41st driest such period since records began. When the local normal climate is taken into account, December 1994-January 1995 ranked as the 25th driest such period since 1895 (Figure 6).

Figure 7A shows, in illustrative map form, the January 1995 temperature rankings for the 48 contiguous states. Eight states were within the top ten warmest category of the historical distribution for the month of January including the fourth warmest January since 1895 for California and the fifth warmest January for Nevada, New Hampshire, and Vermont. Twenty-three other states were within the warm third of the historical distribution. No state was within the top ten cool category of the historical distribution while only one (Florida, 32nd coolest) was within the cool third of the historical distribution.

January 1995 state ranks for precipitation are shown in Figure 7B. It was the third driest January on record for Delaware, seventh driest January since 1895 for Montana, and the tenth driest January on record for New Jersey. Eight other states were within the dry third of the historical distribution. No state was within the top ten wet category while ten were within the wet third of the distribution. ***It should be noted that the January state precipitation ranks are preliminary and should be used with considerable caution due to the high variability of precipitation on a small space and time scale.***

Temperature and precipitation ranks for the two-month period, December 1994-January 1995 are shown in map form in Figures 8A and 8B. Fifteen states experienced their tenth warmest or warmer such two month period (Figure 8A). Included in this statistic was the second warmest winter-to-date for Vermont, third warmest such two month period for Connecticut, fourth warmest for Rhode Island, and fifth warmest for Michigan, New Jersey, and New York. All of the contiguous United States except Florida (37th warmest) were within the warm third of the historical distribution for the December-January period. It was the eighth wettest winter-to-date for South Carolina, the only state ranking within the top ten wet category (Figure 8B). Seven others were within the wet third of the distribution. Seven states were within the top ten dry category including the second driest winter-to-date for Delaware, the fourth driest such period for Montana and the fifth driest December-January period on record for Colorado and Wyoming. Thirteen other states were within the dry third of the historical distribution.

There was a slight increase in the national picture of severe to extreme long-term drought and a slight decrease in the percentage of the country experiencing severe to extreme long-term wet spell during the last three months. Nationally, long-term drought conditions (as defined by the Palmer Drought Index) for January increased to 5.1% of the country while the percent coverage of severe to extreme wet area decreased to 10.5% (Figure 9). Table 2 lists the precipitation ranks and statistics for selected river basins for the 1994-1995 Hydrologic Year thus far. The core wet areas included portions of the northern Great Plains, the Southeast, eastern Texas, and the central and eastern Great Lakes. The core dry areas included the interior Northwest, the northern Rockies, and portions of the mid-Atlantic region.

Table 3 shows extremes, 1961-90 normals, and the January 1995 values for both precipitation and temperature for the nine regions and the contiguous U.S.

Precipitation averaged across the Primary Hard Red Winter Wheat Belt ranked above normal for the October-January growing season to date (Figure 10).

According to preliminary data from the National Weather Service's National Severe Storms Forecast Center, there were 41 tornadoes across the contiguous United States in January 1995 (Figure 16). The 1953-1994 average tornado count for January is 14. No tornadoes were reported in January 1986 while 52 were documented in January 1975. It should be noted that the preliminary tornado count is generally higher than the final count.

TABLE 1. PRECIPITATION AND TEMPERATURE RANKS, BASED ON THE PERIOD 1895-1995. 1 = DRIEST/COLDEST, 101 = WETTEST/WARMEST FOR JANUARY 1995, 100 = WETTEST/WARMEST FOR DEC 1994-JAN 1995, 100 = WETTEST/WARMEST FOR AUG 1994-JAN 1995, 100 = WETTEST/WARMEST FOR FEB 1994-JAN 1995.

REGION	JAN 1995	DEC 1994-JAN 1995	AUG 1994-JAN 1995	FEB 1994-JAN 1995
PRECIPITATION:				
NORTHEAST	42	31	33	62
EAST NORTH CENTRAL	49	22	58	56
CENTRAL	68	46	41	54
SOUTHEAST	62	45	77	89
WEST NORTH CENTRAL	9	5	55	31
SOUTH	43	61	62	59
SOUTHWEST	52	55	71	55
NORTHWEST	48	31	24	19
WEST	85	72	67	55
NATIONAL	59	41	55	59
TEMPERATURE:				
NORTHEAST	92	95	93	84
EAST NORTH CENTRAL	77	87	94	84
CENTRAL	54	80	81	69
SOUTHEAST	56	83	71	75
WEST NORTH CENTRAL	70	79	88	87
SOUTH	71	84	82	81
SOUTHWEST	83	88	86	97
NORTHWEST	91	76	75	93
WEST	98	84	63	89
NATIONAL	88	98	95	93

TABLE 2.
STATISTICS FOR SELECTED RIVER BASINS: PRECIPITATION RANKING FOR OCT-JAN 1994-95, WHERE RANK OF 1 = DRIEST, 100 = WETTEST, BASED ON THE PERIOD 1895 TO 1995, AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) DROUGHT, AND AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) WET CONDITIONS, AS OF JANUARY 1995.
RIVER BASIN REGIONS AS DEFINED BY THE U.S. WATER RESOURCES COUNCIL.

RIVER BASIN	PRECIPITATION RANK	% AREA DRY	% AREA WET
MISSOURI BASIN	94	4.0%	19.3%
PACIFIC NORTHWEST BASIN	55	39.9%	.0%
CALIFORNIA RIVER BASIN	72	.0%	.0%
GREAT BASIN	79	.0%	3.3%
UPPER COLORADO BASIN	46	23.6%	.0%
LOWER COLORADO BASIN	87	.0%	7.9%
RIO GRANDE BASIN	77	.0%	20.6%
ARKANSAS-WHITE-RED BASIN	86	.0%	2.3%
TEXAS GULF COAST BASIN	97	.0%	25.3%
SOURIS-RED-RAINY BASIN	96	.0%	73.9%
UPPER MISSISSIPPI BASIN	66	.0%	10.3%
LOWER MISSISSIPPI BASIN	60	.0%	.0%
GREAT LAKES BASIN	38	.0%	29.8%
OHIO RIVER BASIN	29	.0%	.0%
TENNESSEE RIVER BASIN	43	.0%	.0%
NEW ENGLAND BASIN	18	.0%	.0%
MID-ATLANTIC BASIN	13	7.4%	7.5%
SOUTH ATLANTIC-GULF BASIN	79	.0%	24.6%

TABLE 3. EXTREMES, 1961-90 NORMALS, AND 1995 VALUES FOR JANUARY

REGION	PRECIPITATION (INCHES) DRIEST VALUE	DRIEST YEAR	WETTEST VALUE	WETTEST YEAR	NORMAL PCPN	1995 PCPN
NORTHEAST	.87	1981	7.22	1979	2.84	2.72
EAST NORTH CENTRAL	.32	1961	2.47	1916	1.11	.99
CENTRAL	.72	1981	9.61	1937	2.52	3.49
SOUTHEAST	.92	1927	7.73	1936	4.13	3.99
WEST NORTH CENTRAL	.16	1961	1.25	1949	.61	.36
SOUTH	.53	1914	5.34	1932	2.09	2.01
SOUTHWEST	.20	1924	3.00	1916	.82	.87
NORTHWEST	.43	1985	7.81	1953	3.80	3.41
WEST	.28	1984	10.67	1916	2.58	4.69
NATIONAL	.92	1981	3.87	1916	2.07	2.25

REGION	TEMPERATURE (DEGREES F) COLDEST VALUE	COLDEST YEAR	WARMEST VALUE	WARMEST YEAR	NORMAL TEMP	1995 TEMP
NORTHEAST	12.3	1918	33.8	1932	21.1	28.3
EAST NORTH CENTRAL	-1.3	1912	25.4	1990	13.0	18.2
CENTRAL	15.1	1977	40.0	1933	28.2	31.5
SOUTHEAST	35.0	1977	57.7	1950	44.1	46.3
WEST NORTH CENTRAL	.1	1937	26.6	1986	16.5	20.3
SOUTH	31.1	1940	50.7	1923	40.7	44.1
SOUTHWEST	20.8	1937	38.2	1986	31.2	34.5
NORTHWEST	13.4	1949	37.4	1953	28.5	32.8
WEST	24.4	1937	45.5	1986	38.4	42.8
NATIONAL	22.4	1979	37.1	1953	29.9	33.8

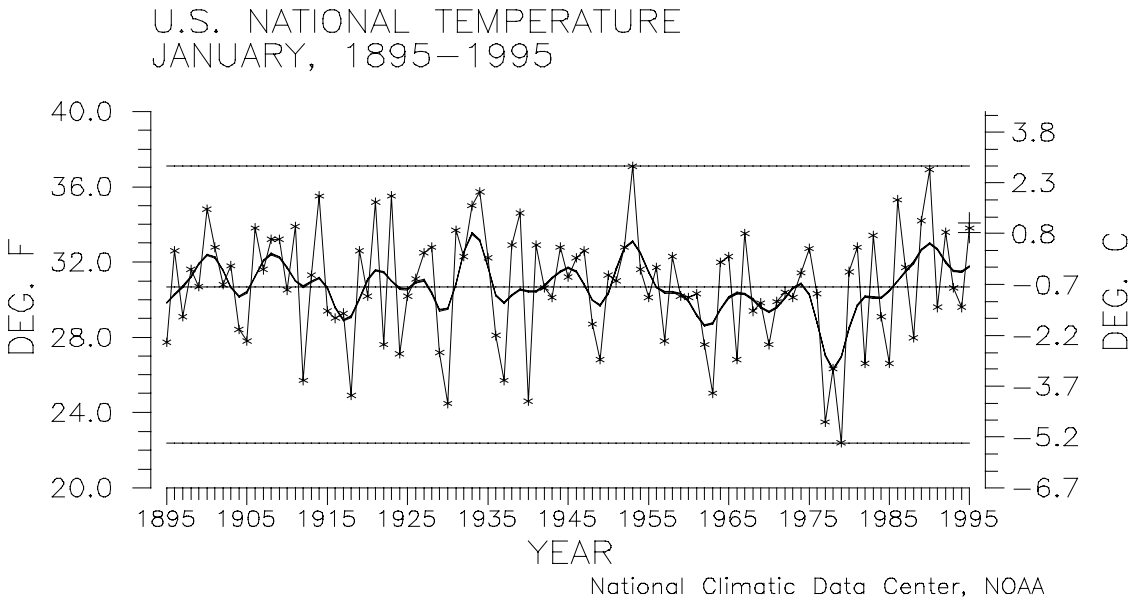


Figure 1

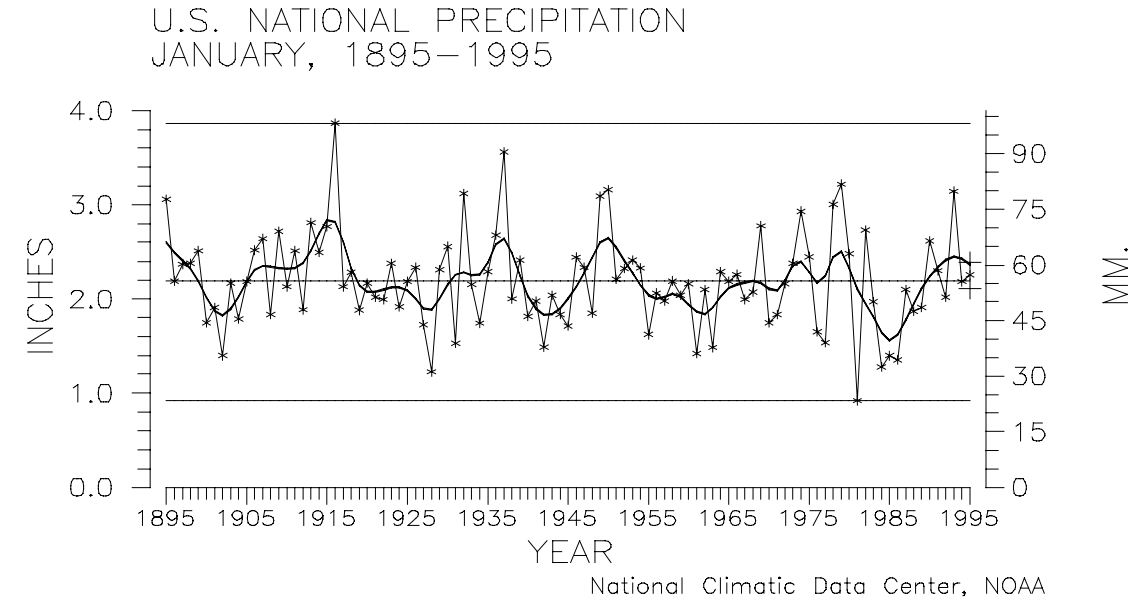
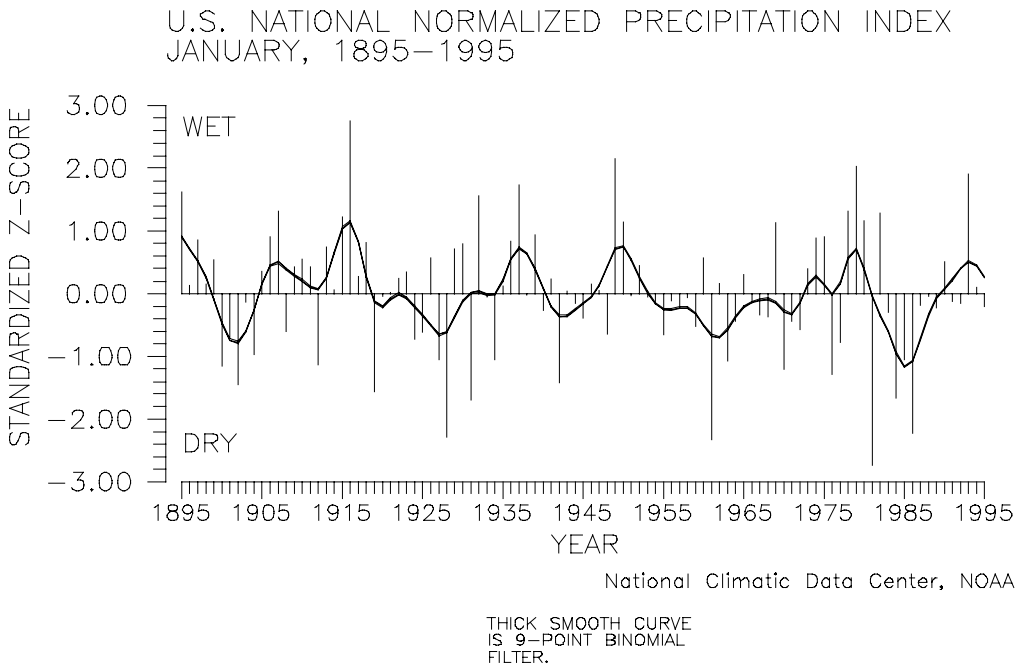


Figure 2



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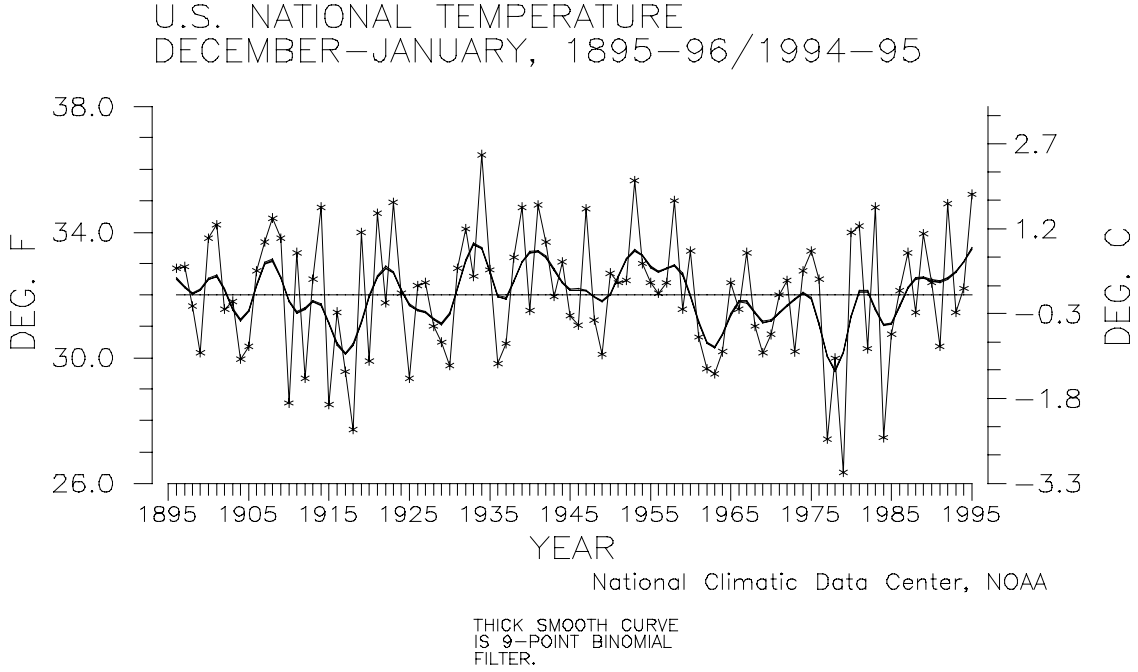
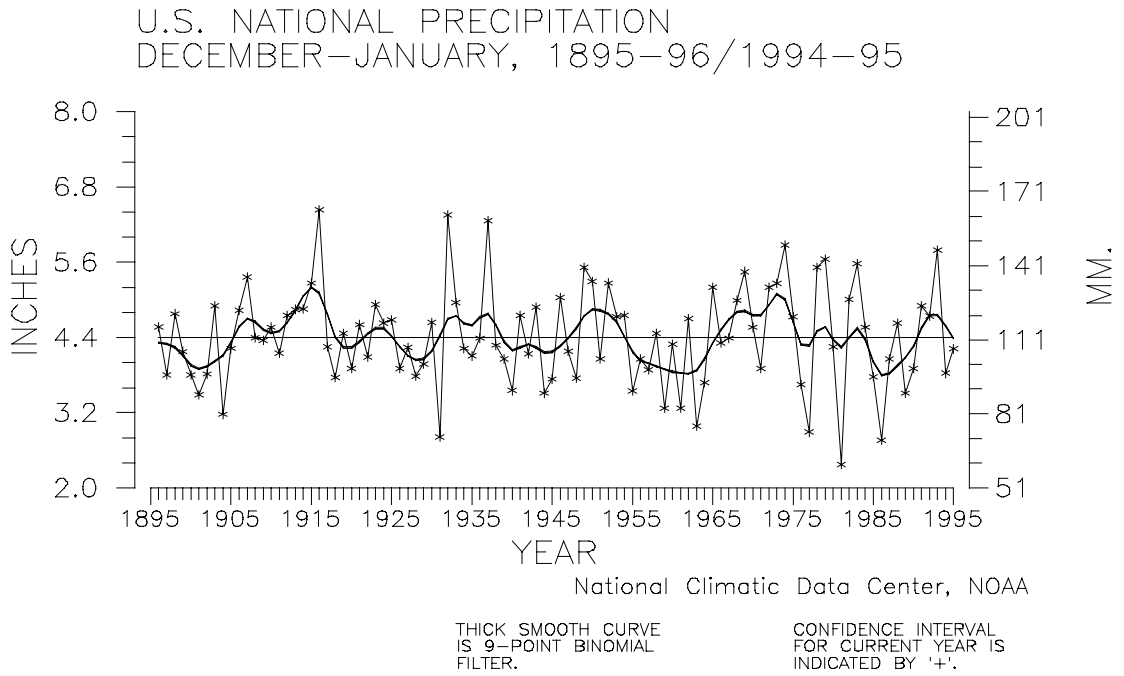


Figure 4



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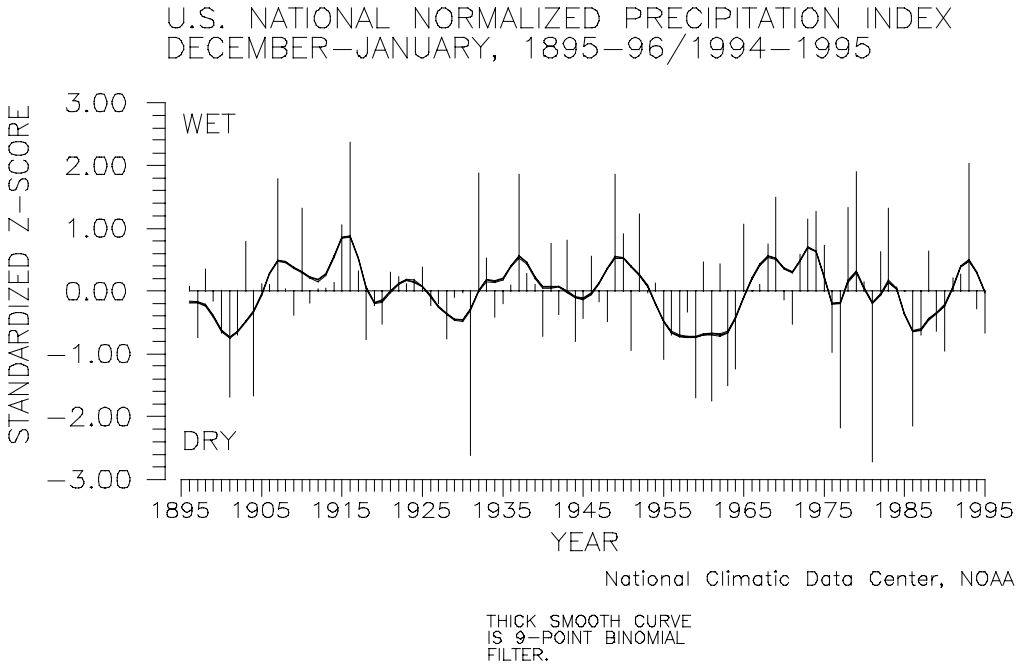


Figure 6

JANUARY 1995 STATEWIDE RANKS

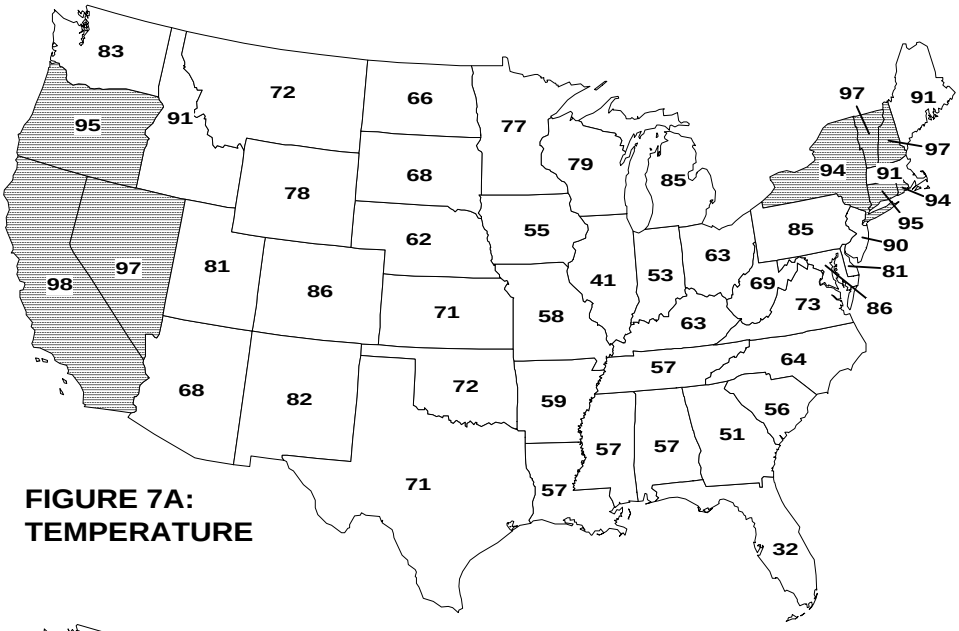


FIGURE 7A: TEMPERATURE

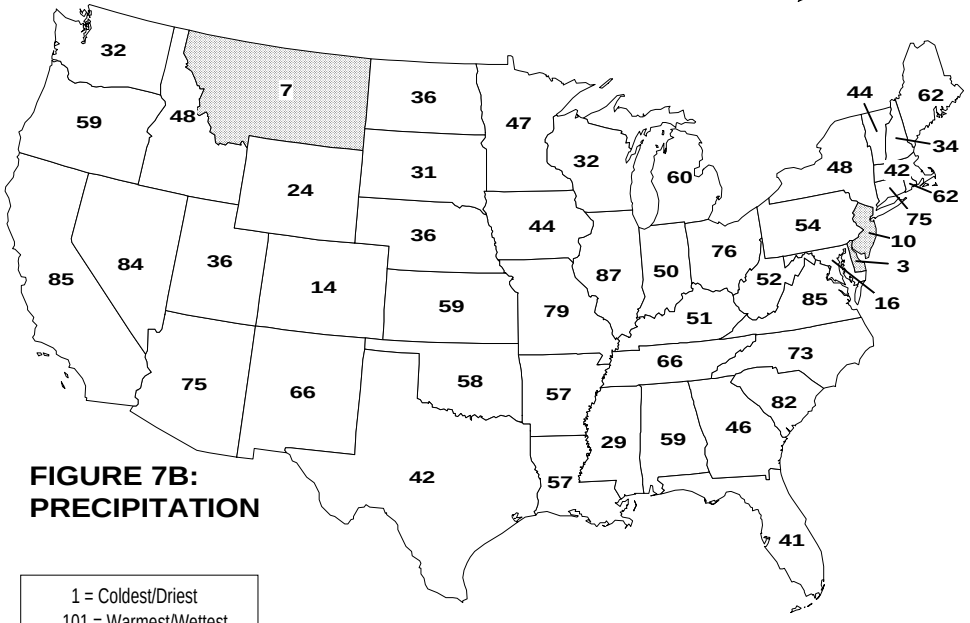


FIGURE 7B: PRECIPITATION

1 = Coldest/Driest
101 = Warmest/Wettest

National Climatic Data Center, NOAA

Temperature and Precipitation Ranks for the contiguous United States. Each state is ranked based on its data from 1895-1995. States having a rank of top ten coldest or driest (rank 1-10) or top ten warmest or wettest (rank 92-101) are shaded.

DEC 1994-JAN 1995 STATEWIDE RANKS

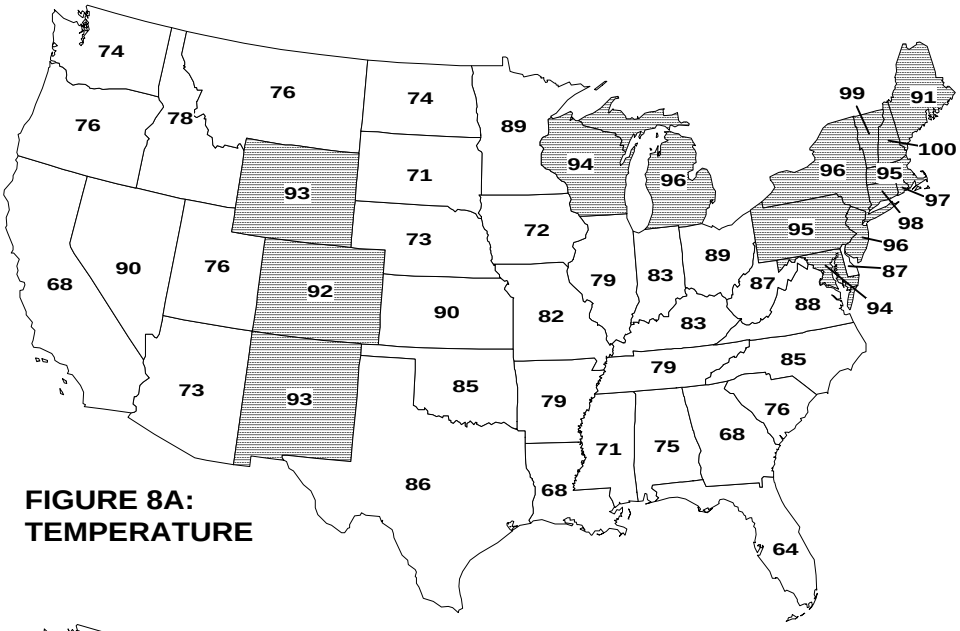


FIGURE 8A: TEMPERATURE

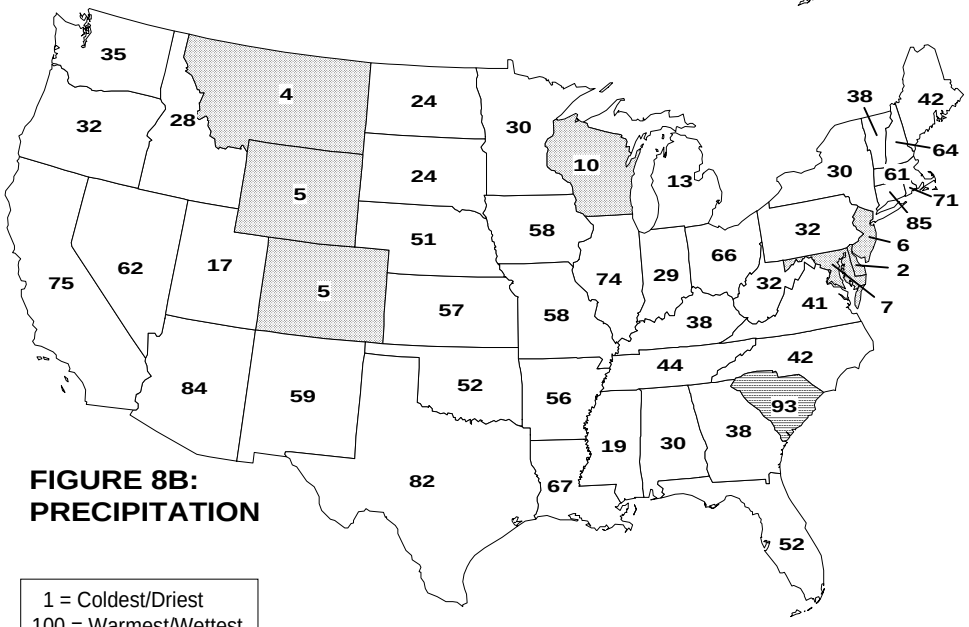


FIGURE 8B: PRECIPITATION

1 = Coldest/Driest
100 = Warmest/Wettest

National Climatic Data Center, NOAA

Temperature and Precipitation Ranks for the contiguous United States. Each state is ranked based on its data from 1895-1995. States having a rank of top ten coldest or driest (rank 1-10) or top ten warmest or wettest (rank 91-100) are shaded.

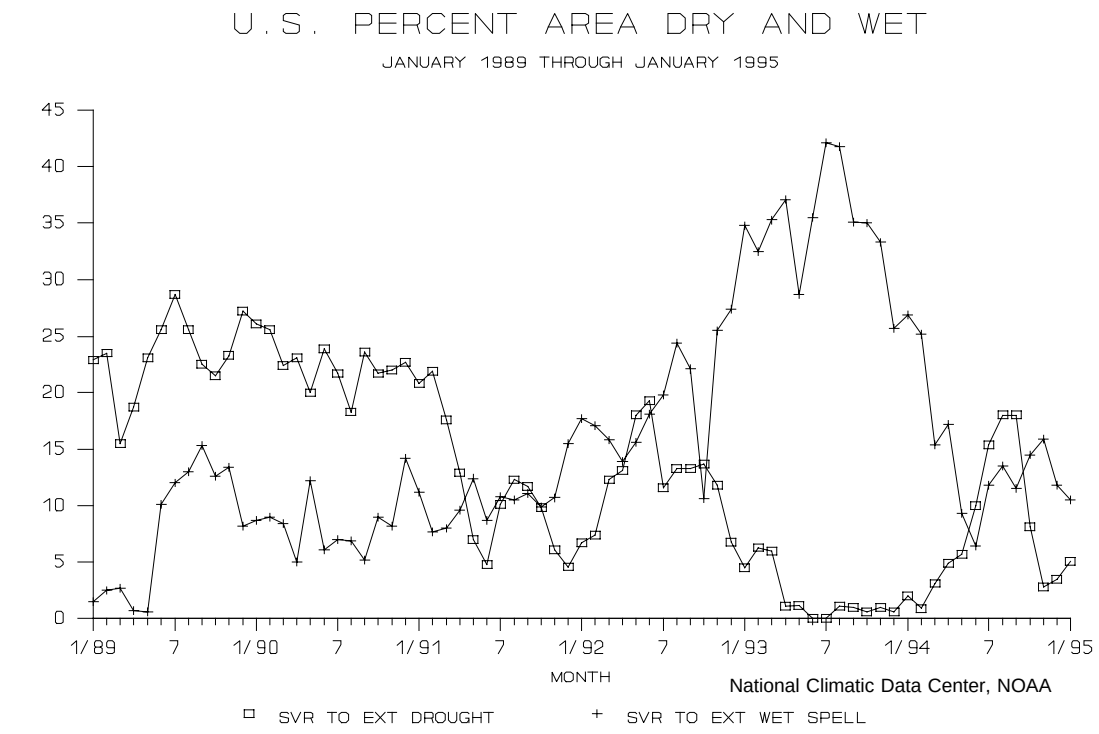


Figure 9

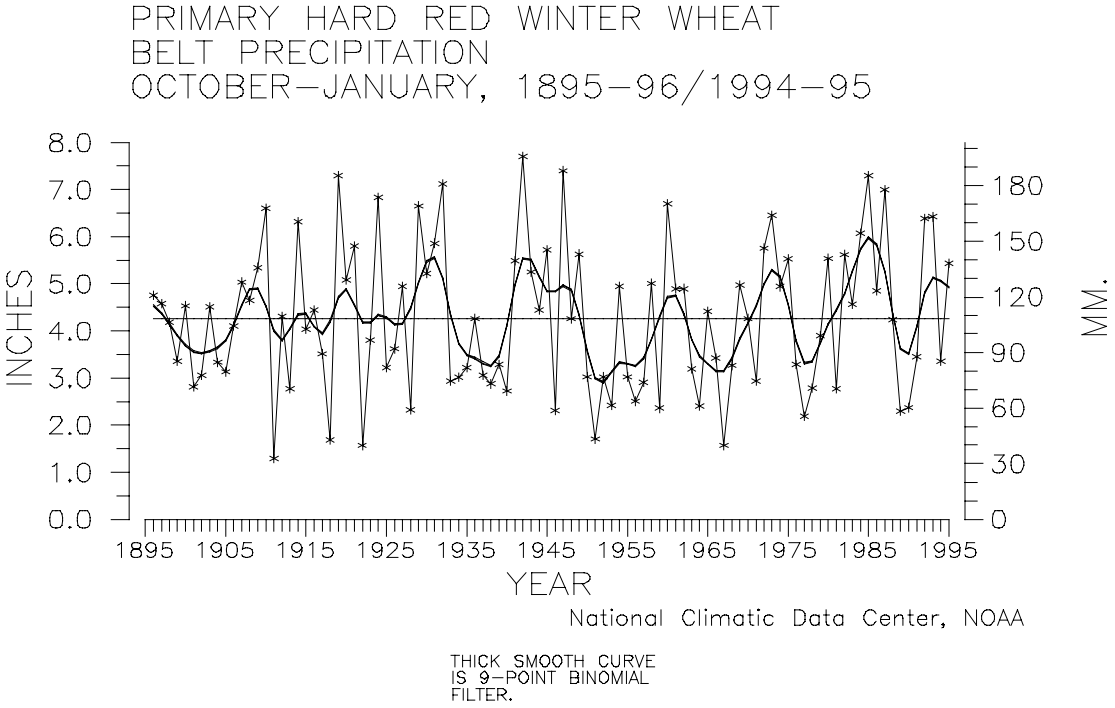
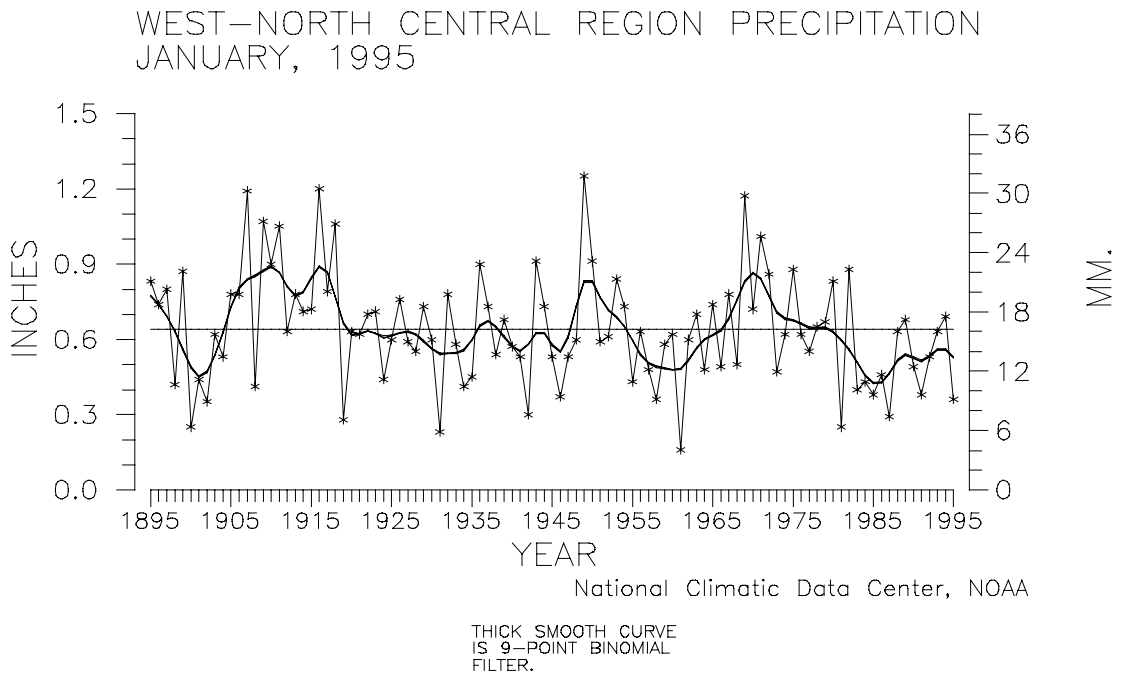


Figure 10



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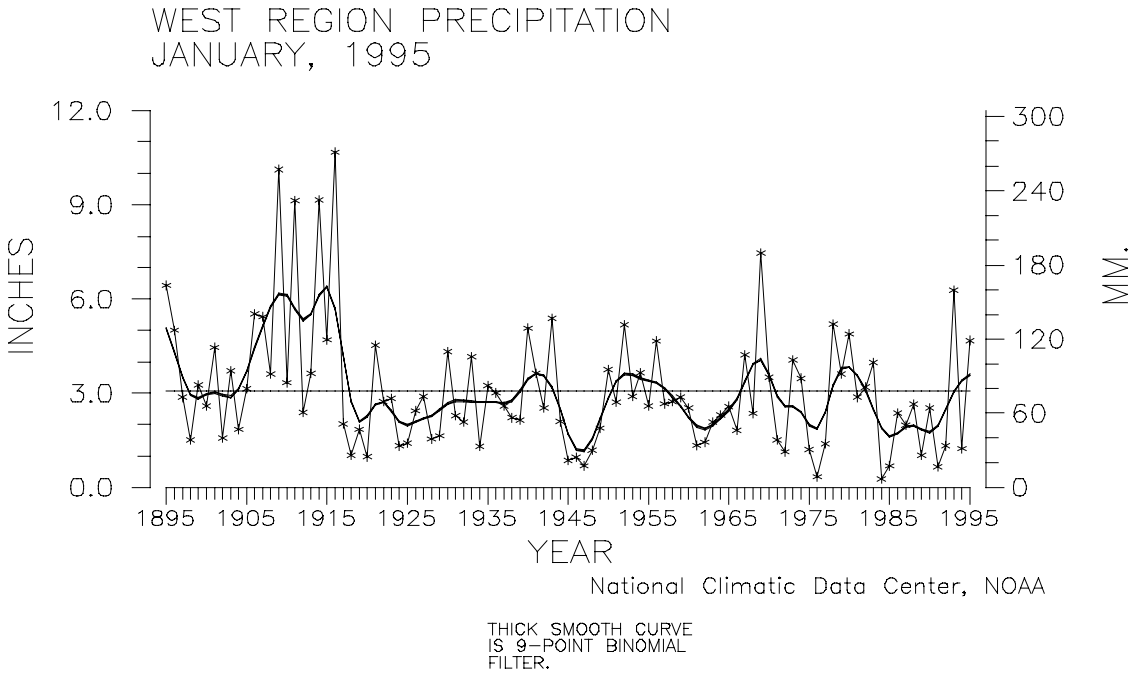

Figure 12

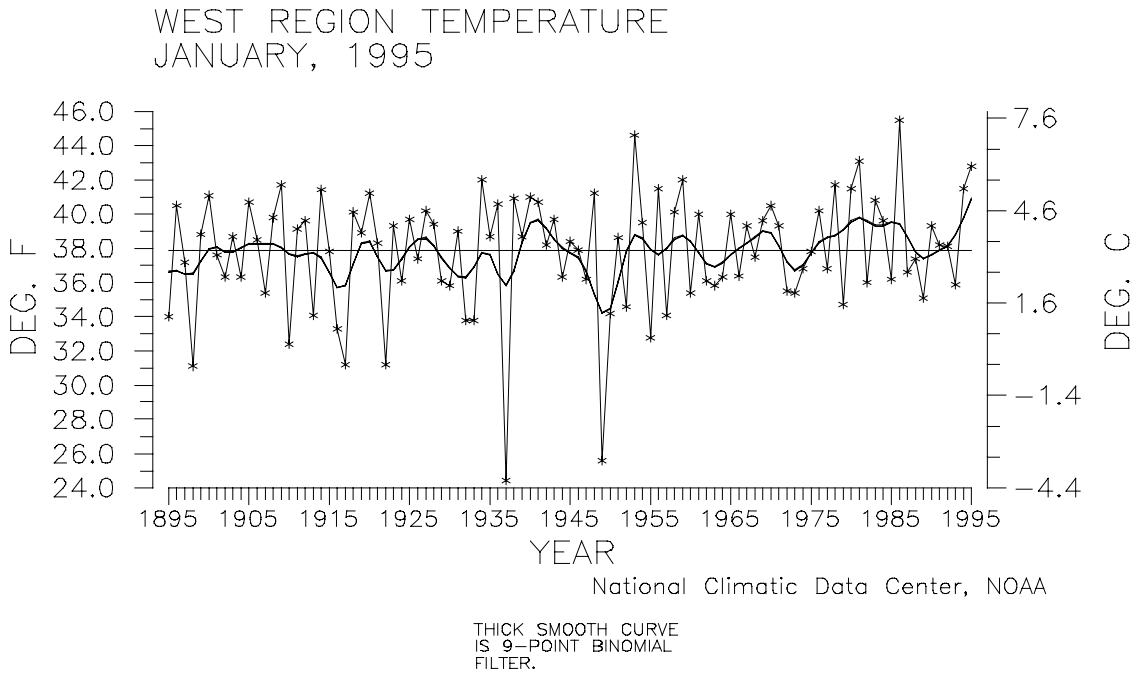

Figure 13

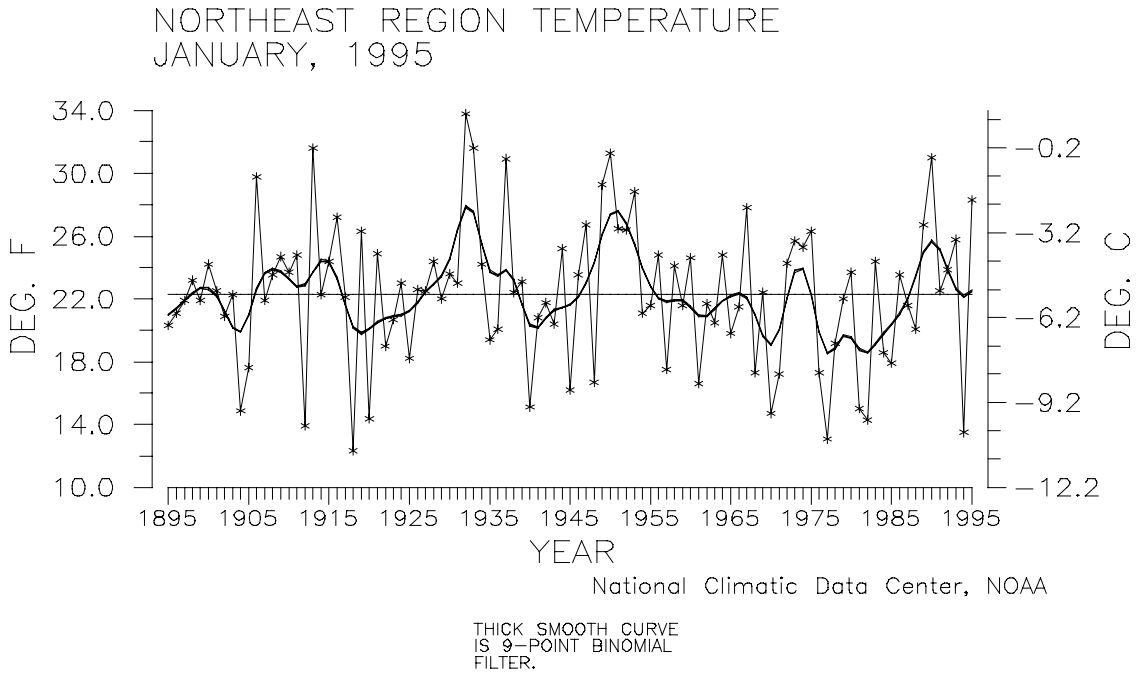

Figure 14

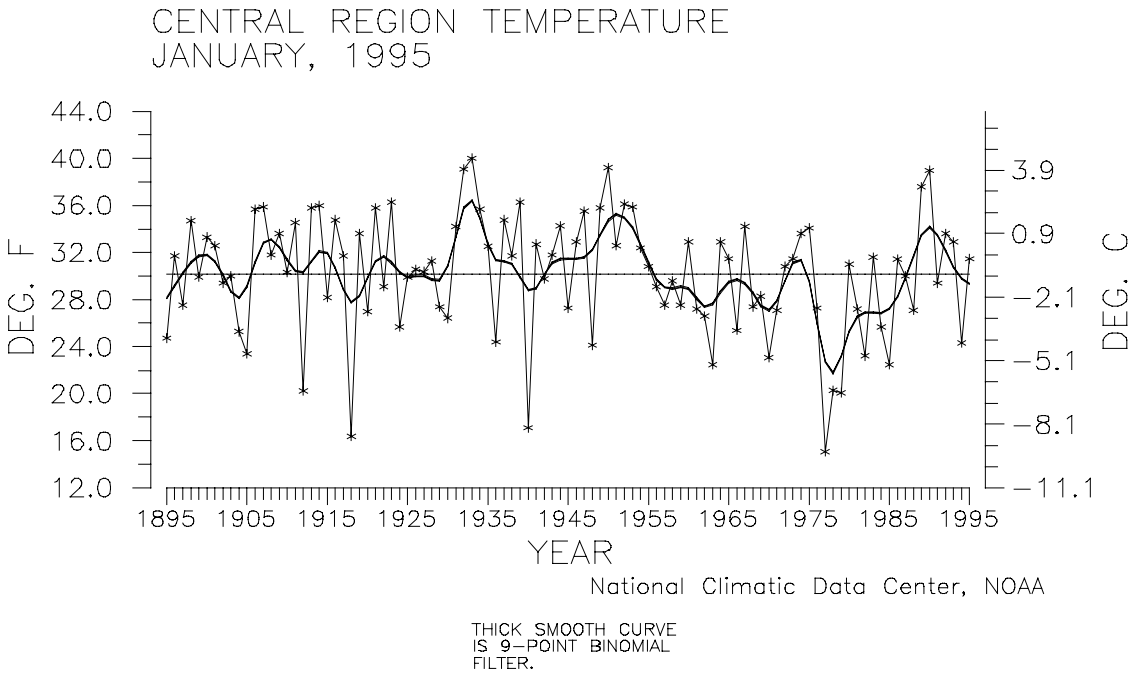

Figure 15

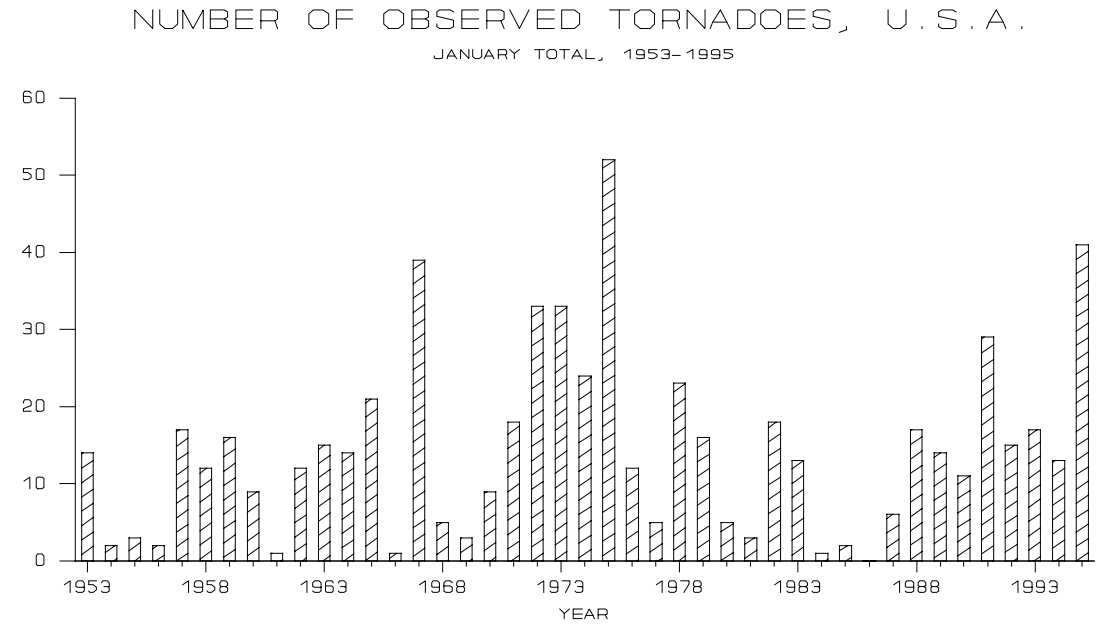

Figure 16